

A MEDICO-LEGAL CASE, INVOLVING X-RAY TESTIMONY AND ITS BEARING ON A RECENT PROPOSAL TO REGULATE MEDICAL EXPERT TESTIMONY.

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My object in reporting this case is simply to justify myself, and to call attention to a recent proposal to regulate medical expert testimony. In the case of Yelverton vs. Central of Georgia Railway Company, I X-Rayed the injured elbow of the plaintiff, took a frontal and profile view, and presented them in evidence in the case. In my testimony I stated that a careful study of the plates had shown a permanently injured joint. The bony exudate plainly seen in both views pointed to a fracture through the articular end of the humerus, just above the trochlea and the capitellum, the weakest point of the bone, and that, though the fragments were not displaced, there had been considerable periosteal irritation leading to a bony exudate, which had permanently crippled the joint. The X-Ray was taken about two years after the accident, so that of course there was no immediate evidence of a fracture to go by. Diagnosis had to be made on a description of the original injury, and what was found in the radiographs.

Briefly, the history of the initial injury is this: While working in a car, moving some boxes of considerable weight, the car was run into by another car, and the plaintiff knocked down, and one of the boxes, in falling, struck his elbow. He suffered a good deal of pain, walked up town to a druggist, and bought some liniment to rub with. He went to a doctor who examined the joint and made no diagnosis of any injury outside of a severe bruise, and the elimination of any dislocation. He went home, where he nursed his injury as best he could. In thirteen days he returned to work, though, as he testified, to light work only, as he found it

impossible to do the heavy work he had been doing before the injury. He was not examined by the company's surgeon until six months after the injury. A second examination was made some months later, and on one occasion an effort was made to straighten the limb.

At the first trial of the case the jury disagreed. At the second trial the plaintiff obtained a verdict of five hundred dollars, and he was given a third trial on the grounds that the judge had stated to the jury that the man was not badly hurt. At neither trial was there any X-Ray evidence introduced.

The defense contended that the short time he was laid up, his return to his work in thirteen days, and the evidence they could bring forward to show that he had done his usual work since the injury, all showed conclusively that he was not hurt to any appreciable extent. The plaintiff testified that, though he had returned to work so soon after the initial injury, it was light work only in comparison with what he had formerly done; that his arm still pained him greatly, especially after using it to any extent; that the movements of the joint were considerably restricted, and that there was an evident atrophy of the muscles of the elbow, as shown by measurements in comparison with the left uninjured arm. This testimony was corroborated by the physician who attended him at the time of the injury, and who examined him again just before the trial.

A week before his third trial he was sent to me to examine his injury and to X-Ray the parts involved. The plaintiff is a well-developed mulatto. On examination I satisfied myself that the right elbow gave ample evidence of injury. Inspection alone sug-

gested an injury—the arm pendant at an angle, and the evident atrophy. It “looked stiff,” and I make the statement with all due regard to that great bogey, the malingerer, a bogey, by the way, though he be but a phantom at times, who often materializes to a very solid creature. Passive movements of the joint showed an inability to thoroughly extend the forearm, the failure measuring about ten degrees. There was no flexion past a right

Had there been a history of dislocation, this exudate could have been explained, though less clearly, I think, by an *arrangement* of the periosteum, without any solution of continuity in the bone.

Now three physicians for the defense, the company's surgeon, and two others, called in suddenly after my testimony was given, testified that my prints did not show a fracture, or anything which could interfere with the nor-

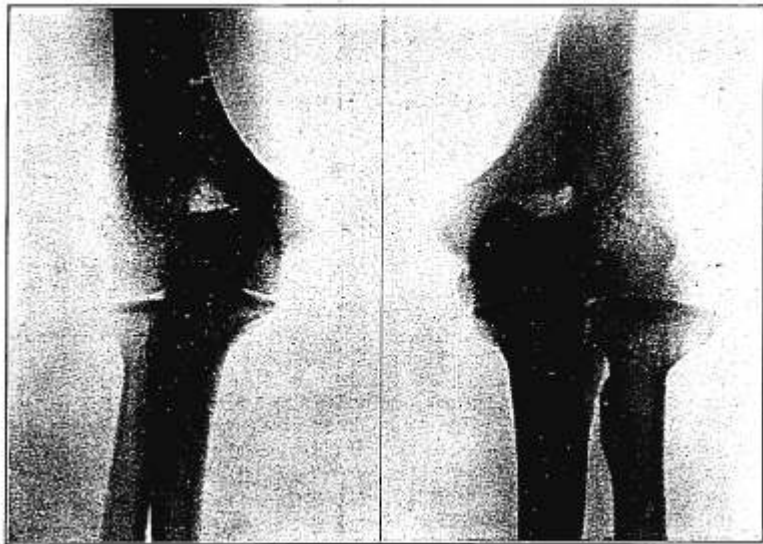


PLATE 1. Normal elbow, frontal view.

PLATE 2. Injured elbow, frontal view.

angle. The free movement of the radius was also involved—supination was reduced one-half.

I got two good plates and prints, and put them in evidence, testifying that the X-Ray findings were in line with the external examination of the joint. I ascribed the bony exudate to a fracture, as the best possible solution of the problem. Moreover, I had no doubt I could make out the old line of the fracture.

mal movements of the joint! One physician testified that the irregular line, which, to my mind, showed the outline of the bony exudate and the old line of the original fracture, was simply the natural outline of the articular surface! Here were three emphatic denials of my interpretation of my plates, all tending, of course, to discredit my testimony before the court.

To any ordinary jury three to one is apt to

settle the matter. An ordinary layman cannot be expected to see the details of an X-Ray plate, especially in a case like this, where there is no flagrant sticking out of broken bones, nor can the expert teach the jury how to see what he sees. Fortunately, in this case, it went over for the day, and I had the opportunity to make two good plates of the sound side, which, in a way helped the jury to see the differences in the two sides, and I did my best to show them these differences. Having in my own mind a clear mental picture of the normal joint, I had taken it for granted that my testimony would not be denied. The sound side should always be used as a comparison, at least for those who do not know the normal conditions.

The plaintiff received a verdict for \$677.65, which, as verdicts go today in damage suits, was wholly inadequate to the injury sustained and was clearly the result of the medical testimony brought to bear to offset mine.

I now present the radiographs taken in this case, with the following description of their salient points:

To appreciate the changes in the injured joint, let us note the salient features shown in the normal joint.

Frontal view: The prominent internal condyle, the olecranon fossa, and even the foramen for the artery, the internal lip of the trochlea, the olecranon process, the capitellum, the cup of the radius free from the capitellum, the head of the radius fitting close to the lesser sigmoid cavity, a clear line of the articulation between humerus, radius and ulna, are all clearly shown. The joint admits of the clearest identification of all its anatomical features, as I have shown in some of my X-Ray papers. I should say that the crucial test of a well defined radiograph of the elbow by the frontal view is the distinct outline of the olecranon process and the transverse line of the articulation, both of which are sharply defined in my print.

With this image of the joint in our mind,

turn to the radiograph of the injured elbow and note the marked differences. At the outset, it should be remembered that you cannot get so good a frontal view when the patient cannot fully extend the arm, and, although in this case, I tried to make the conditions as nearly like the normal joint as possible, there is some transverse lengthening of the shadow, due to having the anode of the tube to one side of the midline of the joint. Note how the head of the radius is flattened out, so to speak. This distortion really brings out a little better the evidence of lesions in the case. Note first the general lack of sharpness in the humeral outlines making up the joint.

Where there has been inflammation in bone or fibrous tissues, with bony or fibrous proliferation, clear outlines are blurred or entirely concealed. Fibrous proliferation offers a pronounced obstruction to the ray, let alone a bony exudate. Witness here the blurred and partially concealed transverse lines of the articulation, the blurred outline of the olecranon proper, and most pronounced of all, the blurred outline of the capitellum, distorted by a large bony exudate, extending downward to the lower lip of the radial cup, and outward nine mm. On the inner side of the joint the articulation between the trochlear surface of the humerus and the inner horizontal portion of the greater sigmoid cavity of the ulna, always beautifully distinct in the normal joint, is here blurred by a bony exudate, extending five mm. below the ulnarine, and seven mm. external to the inner lip of the trochlea. Again, the same bony exudate blurs the transverse line of the joint, and near the radial side almost obliterates it. In the normal joint note the delicate clear line showing the upper boundary of the capitellum: on the injured side note the broken and rough line, which, at the edge of the outer condyle, passes off into the bony exudate above described. This same line, passing inwards across the humerus, runs straight down as though cutting off the internal

condyle, and passing into the same bony exudate.

Profile view: Normal joint. The trochlea, the capitellum, the greater sigmoid cavity, the head, cup, and neck of the radius, the fine curves of the expanded articular end of the humerus, with the internal structure of the bone, and the boundary line between the shaft and the more spongy articular end, the coronoid process, the olecranon, and all the

ently just above the olecranon and in its fossa. We can also see a difference in the division line, between shaft and articular end on the two sides, pointing again to this point as the probable one of the fracture. We can wonder how much movement is still left the joint with the evidences of the bony and fibrous exudates before us. A more extended comparison would bring out still finer differences between the two sides, but I think I have noted enough



PLATE 4. Injured elbow, profile view.



PLATE 3. Normal elbow, profile view.

internal structure of the bones involved, are all clearly shown in my print. Comparing this picture with that of the injured joint, we have a striking additional record of the injury. We can see in profile the bony exudate above the radius and the exudate on the ulnar side, giving a deep shadow over the olecranon, and entirely obscuring the articulation of the joint posteriorly. And more convincing still, we have quite a mass of bony exudate, appar-

to convince any impartial observer that we have here X-Ray evidences of an injury which no amount of argument can dispel. It is as firm and unanswerable as the testimony of the rocks. Let me state, too, that all the plates were taken with the same tube, the same distance from the plate, the same time of exposure, and the same make of plate.

And now, finally, as to some reflections on this case. The company's counsel put up a

hard fight; that the plaintiff was laid up but thirteen days, and that he returned to work after that short interval, and to work, from their standpoint, as arduous as he had previously done, was sufficient evidence to them to prove that he had not been badly hurt. They had, too, the testimony of the company's surgeon, and, finally, the testimony of the two physicians called in at the eleventh hour to support his testimony.

From a surgical standpoint, the short lay-up from the initial injury and the plaintiff's re-

that a diagnosis could easily have been made by the use of the X-Ray, and, that, thus, the plaintiff had not availed himself of every means to recover properly from his injury. Had the injury been recognized, and the probable serious nature of it, and treated with proper care and circumspection, the patient, in all probability, would be better off today. Perfect rest, with general passive motion of the joint, would, in all probability, have reduced the amount of bony exudate. My experience with joint injuries of this kind is that

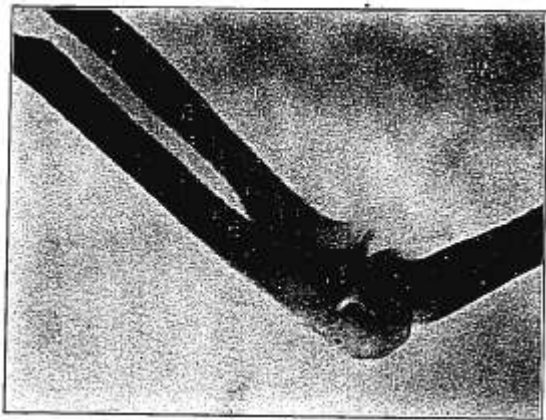


PLATE 5. Unrecognized fracture of olecranon without displacement.

turn to work so soon was no evidence whatsoever that his arm was not badly injured. Medical literature is full of just such cases. The day laborer is often compelled to work when he should lay up, and I firmly believe, from my study of the plates, that the plaintiff in this case added greatly to his injury by this early use of his injured joint. Had the company admitted any injury, a good line of defense could have been made out by this very early return to work and careless use of the arm. They could have shown that practically no diagnosis had been made of the case, and

any hard use of the limb adds greatly to the trouble; so long as the bones are intact, and there has been no pronounced synovitis, but only inflammation of surrounding ligaments and tendons, there is a fair prospect of cure, even though long delayed; but never where there is a condition as revealed in this case.

One of the first great revelations made by the X-Ray in its early history was to show how many cases of so-called bruises and strains had a fracture element in them—cases of fracture without any displacement of the bones, where it would have been absolutely

impossible to make a diagnosis without something like the X-Ray. X-Ray literature is full of such cases. A recent case of my own is so pertinent to this present case that I shall briefly describe it and show the prints. A young man was struck on the elbow while riding on a car of the Savannah Electric Company. He was attended by the company's surgeon, who diagnosed a bruise of the joint only and promptly discharged the case. Though the young man was employed in an office, on clerical work only, the arm and elbow still continued to hurt him. He went to the company and informed them that his elbow was still paining him, and that he was not satisfied with his condition. He had no desire to sue the road, but simply wished the proper compensation for pain and suffering and loss of time. The company sent him to me for a diagnosis, and I found a pronounced fracture through the olecranon, directly into the joint, but without displacement. The X-Ray is a good one, and shows the injury in a striking way. One can readily understand how any undue use of the arm in this case might have increased the trouble, might have thrown out sufficient bony exudate to cause considerable impairment of joint function. The case was amicably settled.

Of the good faith of the medical men who opposed me, I have no doubt, and I so expressed myself in court, yet that does not change my opinion that their position in the case was wholly untenable from a logical or scientific standpoint—certainly not from the standpoint of justice.

In all these damage suits there is always a conflict of contending emotions, which even the strict rules of legal procedure and the good faith of the contending parties cannot suppress. There is the corporation bias and the individual bias, a feeling of imposition on the part of the defendant, a feeling of one's rights on the part of the plaintiff. With the position of the corporation I have much sympathy. Consider the number of suits and the enor-

mous sums paid out in settlement of these cases, and you wonder how any corporation or railroad can exist. The every-day working of a railroad is a dangerous one; the employees and passengers on a road, traveling at forty miles an hour, are aware that they are in greater danger than when they remain at home; many accidents are rightly called unavoidable, which the strictest vigilance and caution could not prevent, and yet making the road legally responsible. Consider the large element of fraud universally recognized in many of these cases; and consider, too, the natural tendency of a jury to side with the plaintiff. He stands as an individual before them, while the corporation is only a name, but a name with a big bank account. The corporation must fight, and fight hard.

When we turn to the plaintiff, especially if he be a day laborer, we can see at once how sympathy builds up a bias of no mean proportions. To be a brakeman or a switchman is in itself something of a misfortune, and to be injured while in the discharge of one's duty but increases the pity. It is not to be wondered at, then, that these sentiments will forgive exaggeration and often fail to see fraud. Verily, under these conditions, "is truth a gem which loves the deep;" and when these contending emotions clash, is "confusion worse confounded."

The only way to reduce this element of bias, to lessen these contending emotions, is to make the medical witness as far as possible independent of either side, and this can be done, in a measure, by the court or the legislative body regularly appointing efficient men for the position of medical experts, who shall be paid by the county for their services.

It has long been evident that some such reform was necessary. This has especially been seen in cases where the question of insanity was the pivotal point, and where the differences among the medical experts and the evidences of bias, reflected little credit upon our profession. Even in cases where the ques-

tion at issue is a more palpable one, pronounced differences of opinion must make the layman wonder and realize that "science" so called is often but pseudo-science.

I would call your attention to a recent effort at reform in this direction, coming from the Medical Society of the State of New York. So far as I know, this is the first intelligent and organized effort in the country to accomplish this reform.

A very important part of this proposal is the concluding part, where the old system of either party at the trial being permitted to call at their own expense additional expert witnesses who may act as a check or control of the evidence offered by the regularly appointed witnesses is allowed. It will help to maintain a balance. It is evident, however, that an unprejudiced jury will be more likely to accept the testimony of a witness who is independent of either side, than one called and paid for his services by plaintiff and defendant.

This proposal, as published in the *New York Medical Record* for May 9th, of this year, is as follows:

A PROPOSAL TO REGULATE MEDICAL EXPERT TESTIMONY.

"The committee of the Medical Society of the State of New York appointed to confer with a special committee of the New York State Bar Association in regard to the regulation of expert testimony, has prepared the following tentative draft of a bill with this end in view:

At any time in the pendency of any civil proceeding in any court in which any medical or surgical question is likely to be material, the court or any justice thereof may, or at the request of either party shall, appoint from the list made up as hereinafter provided one or more persons learned in the science of medicine and surgery, and of not less than seven years actual practice, as official experts, who shall investigate the facts of the case and

give their opinion upon any such question arising in such proceedings, and make written report thereof to the court. Upon such appointment by the court, or if the parties file an agreement designating an expert for the case, the court shall issue an order for the person so appointed or agreed upon, to be served in the manner provided by law for the service of subpoenas. As soon as may be after service thereof the expert shall make such examination of the case as in his judgment may be necessary and practicable, and shall file his report as above provided. Such report shall be filed in the case, and shall thereupon be open to the inspection of either party, and such report may be read in evidence, and such expert may be called as a witness by either party at the trial. The New York Academy of Medicine, for New York City, and the Medical Society of the State of New York, acting for the State outside of New York City, shall, through committees appointed by these organizations, furnish to the court or courts in various counties, a list of names of members of the medical profession of good standing, and of not less than seven years actual practice, recommended by them as competent and expert in medicine and surgery, from which list the court may select such expert or experts as in its judgment may be required. Such official expert shall be paid out of the treasury of the county a minimum fee of \$50 for the examination of, and report on, any case in question; \$50 additional for the first day's attendance in court upon the case, and \$100 a day thereafter while attendance is required by the court. The expert witnesses so listed may be called by any court of the State, and if called from the county of their residence the fee shall be increased to the extent of the extra expense incurred, to which shall be added a reasonable compensation for such extraordinary service and loss of time. Either party at the trial may call other expert witnesses than those appointed or agreed upon, but at his own ex-

pense."—*New York Medical Record*, May 9 1908.

In conclusion, what can be said for my position in this special case? Simply this: I am asked to examine and X-Ray an elbow; I get two good plates, and I examine them in the privacy of my office; I find a bony exudate and other evidences of bone injury about the joint, ascribable to some violence, and not to be explained by any congenital condition. Unless I had found for the plaintiff, I need not have gone into the case at all. That I was able to see easily and clearly this injury is due to the fact that I have been looking intently at X-Ray shadows for twelve years, and that

I had a very clear mental picture of the normal elbow, from having done some research work on this very joint, and had taken many plates in the preparation of my published papers. If I was not sure of what I saw, I can be sure of nothing. I was sure that no malingering could produce it, any more than a man could grow an extra digit by will power. I could throw out my physical examination of the joint, which, in itself, assured me of an injury, and base my testimony wholly on what my plate showed me. To show my assurance, I present these prints with this paper, where they can be inspected by those who have given this subject some time and attention.